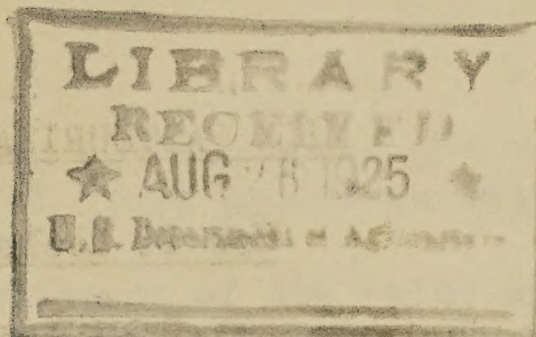


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UNITED STATES DEPARTMENT OF AGRICULTURE

Extension Service

Office of Exhibits

A Summary of the Exhibit

MILK PASTEURIZATION

A booth exhibit showing the usefulness of pasteurization as a safeguard against typhoid fever; and general facts which everybody should know about the process.

Specifications

Floor space - - - - - 13 feet front, 8 ft.  
Wall space - - - - - None. (deep.  
Shipping Weight - - - - - 775 lbs.  
Electrical Requirements - None.



## MILK PASTEURIZATION

### How It Looks

The center section of this exhibit shows, by means of a diagrammatic painted scene, supplemented by cut-outs, why pasteurization of milk is so important. The scene shows two cities, two dairy farms, and a pasteurizing plant.

City R. shown at the left and front is made up of several miniature cut-out houses to make the scene more realistic. The remainder of the scene, including the City of S and the dairy farms, are painted on the background.

The diagrams trace the delivery of raw milk from two dairies, and show that the germs of typhoid fever coming from an infected milker on one farm caused an outbreak of this sickness in the City of R. Milk from the same dairy, which was pasteurized, failed to infect those who used it.

The left section is almost entirely devoted to text explaining the pasteurization of milk. Three graphs in the right-hand corner show the effect of bacterial groups in relation to the souring of milk.

The right section shows graphically, by means of bars of different lengths, the percentage of pasteurized milk in cities of different sizes. The right half of this section is devoted to text which gives seven important facts about pasteurization.

The booth is 13 feet across the front, 8 feet deep and 7 feet high.

### What It Tells

As applied to milk, the primary object of pasteurization is the destruction of any disease germs which may be present. The holder process, which is the one most extensively used in this country, consists of heating milk to 145° F. in tanks and holding it for 30 minutes, after which it is cooled and bottled. Sometimes milk is bottled first and then heated to 145° F., held for 30 minutes, and



then cooled in the bottle. This process has many points to commend it. Neither of these processes injure the milk.

A very striking evidence of the value of pasteurization is shown in the exhibit. This is an accidental experiment which showed the usefulness of pasteurization as a safeguard against typhoid fever. The milk from one farm went to two cities. In one of these cities the milk was sold raw and in the other it was pasteurized. In the city which had the raw milk, 12 cases of typhoid fever developed which were traced to the milk from that farm; but no cases developed in the other city, where the milk from the same farm was pasteurized. Investigation brought out that a milker on the farm had typhoid fever and infected the milk. Pasteurization saved one city from an epidemic.

Pasteurization is increasing each year. In 1903 about 5 per cent of the milk supply of New York City was pasteurized, but by 1921 about 98 per cent of the milk supply was pasteurized. Some cities require the pasteurization of all milk except certified or equivalent grades. Experience with pasteurization may be summed up as follows:

1. No epidemics have been traced to properly pasteurized milk.
2. Proper pasteurization destroys the pathogenic organisms sometimes found in milk.
3. After pasteurization, milk is handled by so few people before it reaches the consumer that it can be protected against further infection by frequent medical inspection of the small number of people concerned.
4. Tuberculin testing properly used is a safeguard against bovine tuberculosis, but does not protect against typhoid fever, diphtheria, septic sore throat, and other milk-borne diseases. This emphasizes the need for pasteurization.
5. Pasteurized milk sours like new milk of equivalent bacterial quality.
6. The only change in milk caused by pasteurization is the reduction of vitamin C. This deficiency is easily supplied by feeding tomato or orange juice.



## Where to Get Information

For further information send for U. S. Department of Agriculture Bulletin 342, The Present Status of the Pasteurization of Milk..